

SUBHAM SHOME

+91 9051320621 ◇ Kolkata, India

subham28297@gmail.com ◇ linkedin.com/in/subhamshome ◇ github.com/subhamshome ◇ subhamshome.com

RESEARCH INTEREST

Tomographic Imaging, Deep Learning, Astroinformatics, Computer Vision, Applied Mathematics, Machine Learning, Bayesian Stochastics

EDUCATION

Pazmany Peter Catholic University (PPCU), Budapest, Hungary Expected Jul 2024

Autonomous University of Madrid (UAM), Madrid, Spain

University of Bordeaux (UB), Bordeaux, France

Erasmus Mundus triple Master of Science in Image Processing and Computer Vision (IPCV)

Current Grade: 4.51/5

Amity University Kolkata, India

Aug 2015 - May 2019

Bachelor of Technology in Electronics and Communication Engineering, Grade: 9.26/10

SKILLS AND EXPERTISE

Languages Python, Matlab, C++, C, SQL

Libraries Tensorflow, Keras, OpenCV, Scikit-learn, Pytorch, Scikit-image, Numpy, Pandas, Matplotlib

Tools Git, L^AT_EX

PROFESSIONAL EXPERIENCE

Master's Thesis Intern

Jan 2024 - Jul 2024

IMS (Integration from Material to System) Laboratory

Bordeaux, France

- Working on improvement of automatic parameter tuning for tomographic reconstruction of images using Bayesian stochastics and deterministic constraints.
- Understanding and performing mathematical basis of various integral transforms such as radon transform and projection slice theorem.

Machine Learning and Deep Learning Intern

May - Jul 2018 and Jan - Mar 2023

Indian Statistical Institute

Kolkata, India

- Mastered foundational math for Support Vector Machines (SVMs), Random Forests, Logistic Regression. Developed automated system for retinal disease detection, achieving 86% accuracy, continued to bachelor's thesis.
- Applied gained expertise to more than 3 projects, showcasing hands-on experience in deep learning techniques, with a specific emphasis on CNNs.

Software Developer

Jun 2019 - Aug 2022

Tata Consultancy Services Ltd (TCS)

Kolkata, India

- Drove a 20% automation of Walmart's monitoring system, amplifying weekly team efficiency by over 30%.
- Designed and implemented 5% of the UI for Walmart Academy using React JS, and curbed bugs by 15% in 6 months within the ASDA.com production framework.

RESEARCH PROJECTS

Reconstruction of 3D images

Jan 2024

- Performed multiple experiments on various medical images to perform reconstruction of 3D images using radon transform, depth maps and point clouds, achieving an error rate of 1%.

Multi-class Classification on Sloan Digital Sky Survey (SDSS) DR14 data

Aug 2023

- Conducted a comparative analysis on SDSS DR14 dataset, achieving 99.4% and 99.1% accuracy using XGBoost and Random Forest ensemble techniques for multi-classifying galaxies, stars, and quasars.

ESA Hubble Dataset

Aug 2023

- Created a 3-class dataset (galaxies, nebulae, solar system) out of publicly available images from Hubble Space Telescope, sourced from the website of European Space Agency (ESA).

HONOURS AND AWARDS

- **Sponsorship - Synapse AI Symposium** Jun 2023
Selected among Synapse AI Symposium's top 50 candidates at Milan, alongside global AI luminaries.
- **Winner - Cybathlon 2024** Apr 2023
Secured Cybathlon 2023-24's Vision Assistance Challenge victory among 21 global teams at ETH Zurich.
- **Erasmus+ MSc: EU "living expenses" Scholarship** 2023-2024
Chosen along with 9 applicants to receive the prestigious Erasmus+ Grant as funding for studies in Europe.
- **Erasmus+ MSc: IPCV "fee waiver" Scholarship** 2022-2024
Granted full IPCV fee-waiver scholarship as one of only 3 non-EU citizens selected from more than 1000 applicants.
- **Silver Medalist in Academics, BTech** Oct 2019
Earned Silver Medal for B. Tech ECE with 9.26/10 GPA across 4 years.

CERTIFICATIONS

- **Deep Learning: From perceptrons to diffusion models** Mar 2023
Indian Statistical Institute, Kolkata
- **Mathematics for Machine Learning** May 2022
Imperial College of London
- **Computer Vision, Graphics and Image Processing** May 2018
Indian Statistical Institute, Kolkata

LANGUAGES

- **English**
IELTS - 8.0 (C1) Mar 2024
- **Bengali**
Native Language
- **Hindi**